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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/251,582	02/16/99	GUTIERREZ	R 06618/266001

MM22/0203

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EXAMINER

NATIVIDAD, P

ART UNIT

PAPER NUMBER

2877

2

DATE MAILED:

02/03/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/251,582

Applicant(s)

GUTIERREZ ET AL.

Examiner

Phil S. Natividad

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☒ Claim(s) 15 and 22 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 17) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other:

Art Unit: 2877

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

2. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required if the application is allowed.
3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Claim Objections

4. Claims 15 and 20 are objected to because of the following informalities: improper antecedent basis in claim language;
claim 20 recites "said" MEMS device,
claim 15 line 16 recites said "measuring" device vs. claim 15 line 13 "detecting" device.
Appropriate correction is required.

Art Unit: 2877

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 12 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant appears to provide sufficient enabling disclosure on page 7 lines 15-22 (especially line 18) for what will not blur an interferometric measurement, but these limitations have not been included in the claims. As such, the claim language is indefinite as to how broadly the bounds of the claim may be interpreted.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2, 6-7, 9-10, and 17 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hockley (,921).
9. Claim 3 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Wolff et al. (,679) (see Figure 2).

Art Unit: 2877

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 12-14, 18, and 21 are rejected under 35 U.S.C. 103(a) as being obvious over Hockley. As applied above to independent claims 6 and 17 under 35 USC 102, Hockley discloses imaging interferometry to measure a moving sample object. It would have been obvious to one skilled in the art to make design choices known in the art, to optimize the teachings of Hockley.

As to claims 12 (and 17), it would be inherent in any such imaging device that it would be designed not to blur interference maxima of interest, to the extent expressly claimed (see 35 USC 112 2nd paragraph rejection, above). As to claims 13, 14, 16, and 21, see Hockley column 1 line 65; and official notice is taken that it is well known in the art to use a CCD and electronic processing/storage in place of a photographic emulsion camera, also to "multiple-expose" images to compare or integrate them.

12. Claims 4-5, 8, 15-16, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockley in view of Wolff. Hockley discloses interferometric measurement of a periodically-moving sample object, but does not expressly disclose an evacuated enclosed sample area nor pathlength compensation. As to claims 19 and 22, Wolff discloses such an enclosed sample area (column 1 line 67-column 2 line 2). It would have been obvious to one of

Art Unit: 2877

ordinary skill in the art to combine the teaching of Hockley with that of Wolff, the motivation for which would have been that possible errors from gas optical pathlength and/or "window effects ... are minimized" (Wolff column 2 line 1).

As to claims 4, 8, and 15, with the known teachings of Hockley and Wolff, it would have been an obvious variation to have only the sample arm within the enclosure, and to compensate for the viewport pathlength in the reference arm. It is well known in the art to use a plate to compensate for different pathlength to the sample, of which official notice is taken.

13. Claims 11 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hockley in view of Dickey et al. (,473). As discussed above, Hockley discloses interferometric measurement of a periodically-moving sample object, but does not expressly disclose a MEMS device as the object. However, Dickey et al. disclose optically detecting the movement of MEMS devices. It would have been obvious to one of ordinary skill in the art to use the measurement techniques of Hockley on MEMS devices as taught by Dickey et al., the motivation for which would have been to not only detect, but furthermore to measure, the movement in an MEMS device.

Thus, it would have been obvious at the time of invention to modify the teachings of prior art to obtain the invention as claimed.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Slettemoen (,993) reads on claim 1 (see column 2 lines 25-36). Gutierrez (,084) discloses modulating the light source, with synchronized detection (column 4 lines 24-26).

Art Unit: 2877

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phil S. Natividad whose telephone number is 703-306-5944. The examiner can normally be reached on Monday-Thursday and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703-308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


ROBERT H. KIM
PRIMARY EXAMINER

Phil S. Natividad
Patent Examiner
psn
January 28, 2000

FRANK G. FONT
SUPERVISORY PATENT EXAMINER
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